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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,748	05/23/2001	Haoqiang Huang	25436/1642	9159

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EXAMINER

BAKER, MAURIE GARCIA

ART UNIT PAPER NUMBER

1627

DATE MAILED: 09/24/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/863,748

Applicant(s)  
Huang et al

Examiner  
Maurie G. Baker, Ph.D.

Art Unit  
1627



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ONE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claims 1-46 are subject to restriction and/or election requirements.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

**Please Note:** In an effort to enhance communication with our customers and reduce processing time, Group 1627 is running a Fax Response Pilot for Written Restriction Requirements. A dedicated Fax machine is in place to receive your responses. The Fax number is 703-308-4315. A Fax cover sheet is attached to this Office Action for your convenience. We encourage your participation in this Pilot program. Thank you in advance for allowing us to enhance our customer service. Please limit the use of this dedicated Fax number to responses to Written Restrictions. .

#### *Election/Restriction*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-14, drawn to a chemically reactive surface, classified in various classes and subclasses depending on the exact structure of the constituents, for example, class 556, subclass 9.
  - II. Claims 15-32, drawn to a kit, classified in various classes and subclasses depending on the exact structure/nature of the constituents, for example, class 435, subclass 6.
  - III. Claims 33-39 and 45 & 46 (in part), drawn to a *first* method of making a chemically reactive surface, classified in various classes and subclasses, for example, class 528, subclass 28.
  - IV. Claims 40-44 and 45 & 46 (in part), drawn to a *second* method of making a chemically reactive surface, classified in various classes and subclasses, for example, class 525, subclass 540.
2. The inventions are distinct, each from the other because of the following reasons:
3. Groups I and II represent separate and distinct products. They differ in respect to their properties, their use and the synthetic methodology for making them. Therefore, they have different issues regarding patentability and enablement and represent

patentably distinct subject matter. In the instant case, the kit of Group II involves limitations not required in the product of Group I. Also the two products have different uses.

4. Group I and III & IV are related as product and process of making. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the surface of Group I could be made by other processes as the dendrimers thereon could be formed by a variety of different chemical reactions. Moreover, applicants themselves have set forth two different methods of making the claimed surface (methods of Groups III & IV), demonstrating that the product can be made by different methods.

5. The product of Group II is not related to the methods of Groups III or IV. The inventions are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects. In the instant case, the kit of Group II is not disclosed as being made by either of the methods of Groups III or IV.

6. Groups III and IV are drawn to different methods. The methods are different because they use different steps, require different reagents and/or will produce different products and/or results. They therefore have different issues regarding patentability and

enablement and represent patentably distinct subject matter. In the instant case, the methods differ in the fact that the method of Group III involves the chemical formation of a dendrimer on the surface by reaction of monomers, while the method of Group IV involves the reaction of pre-formed dendrimers directly on a surface. These are clearly completely different steps and would require different reagents.

7. Therefore, the groups that describe these methods and products have different issues regarding patentability and enablement, and represent patentably distinct subject matter, which merits separate and burdensome searches. Art anticipating or rendering obvious each of the above-identified groups respectively would not necessarily anticipate or render obvious another group, because they are drawn to different inventions that have different distinguishing features and/or characteristics. Each group could support a separate patent.

8. These inventions have acquired a separate status in the art as shown by their different classification and/or divergent subject matter. The different inventions would require different searches in both the patent and non-patent databases, and there is no expectation that the searches would be coextensive. Therefore, this does create an undue search burden, and restriction for examination purposes as indicated is proper.

9. This application contains claims directed to patentably distinct species of the claimed invention for **all of Groups I - IV**. Election is required as follows.

10. If applicant elects the invention of **Group I**, applicant is required to elect from the following patentably distinct species. Please elect one species from *each* subgroup below. Claim 1 is generic.

IA. Species of solid surface

Applicant is required to elect, for purposes of search, *a specific solid surface*.

IB. Species of "silane containing moiety" (e.g. claim 5)

Applicant is required to elect, for purposes of search, *a specific "silane containing moiety"*. Note that the elected moiety should have all atoms and bonds shown, i.e. be completely defined.

IC. Species of dendrimer polyamine compound

Applicant is required to elect, for purposes of search, *a specific dendrimer polyamine compound*. Note that the elected compound should have all atoms and bonds shown, i.e. be completely defined. The claims readable on the elected species should also be indicated (see also paragraph 15 below).

ID. Species of "substance comprising a hydroxyl group or amine group" (e.g. claim 10)

Applicant is required to elect, for purposes of search, from the following species:

ID(1): DNA

ID(2): RNA

ID(3): polypeptides

The species are distinct, each from the other, because their structures and modes of action are different. They would also differ in their reactivity and the starting materials from which they are made. Therefore, the species have different issues regarding patentability and represent patentably distinct subject matter.

11. If applicant elects the invention of **Group II**, applicant is required to elect from the following patentably distinct species. Please elect one species from *each* subgroup below. Claim 15 is generic.

IIA. Species of solid surface

Applicant is required to elect, for purposes of search, *a specific solid surface*.

IIB. Species of “silane containing moiety” (e.g. claim 20)

Applicant is required to elect, for purposes of search, *a specific “silane containing moiety”*. Note that the elected moiety should have all atoms and bonds shown, i.e. be completely defined.

IIC. Species of dendrimer polyamine compound

Applicant is required to elect, for purposes of search, *a specific dendrimer polyamine compound*. Note that the elected compound should have all atoms and bonds shown, i.e. be completely defined. The claims readable on the elected species should also be indicated (see also paragraph 15 below).

IID. Species of “substance comprising a hydroxyl group or amine group” (e.g. claim 25)

Applicant is required to elect, for purposes of search, from the following species:

IID(1): DNA

IID(2): RNA

IID(3): polypeptides

IIE. Species of additional elements

Applicant is required to elect, for purposes of search, *a single, specific* additional element of the claimed kit from those set forth in either claim 27 or 28 or 29 or 30 or 31.

The species are distinct, each from the other, because their structures and modes of action are different. They would also differ in their reactivity and the starting materials from which they are made. Therefore, the species have different issues regarding patentability and represent patentably distinct subject matter.

12. If applicant elects the invention of **Group III**, applicant is required to elect from the following patentably distinct species. Please elect one species from *each* subgroup below. Claim 33 is generic.

IIIA. Species of solid surface

Applicant is required to elect, for purposes of search, *a specific solid surface*.

IIIB. Species of “silane containing moiety” (e.g. claim 35)

Applicant is required to elect, for purposes of search, *a specific “silane containing moiety”*. Note that the elected moiety should have all atoms and bonds shown, i.e. be completely defined.

IIIC. Species of “reagent containing a terminally unsaturated carbon”

Applicant is required to elect, for purposes of search, *a specific reagent* from those set forth in claim 36.

IIID. Species of “second amine group containing compound”

Applicant is required to elect, for purposes of search, *a specific compound* from those set forth in claim 37.

IIIE. Species of “reagent which activates said amine groups”

Applicant is required to elect, for purposes of search, *a specific reagent* from those set forth in claim 38.

IIIF. Species of dendrimer polyamine compound made

Applicant is required to elect, for purposes of search, *a specific dendrimer polyamine compound* made by the claimed method (i.e. result of instant step (f)). Note that the elected compound should have all atoms and bonds shown, i.e. be completely defined.

The species are distinct, each from the other, because their structures and modes of action are different. They would also differ in their reactivity and the starting materials from which they are made. Therefore, the species have different issues regarding patentability and represent patentably distinct subject matter.

13. If applicant elects the invention of **Group IV**, applicant is required to elect from the following patentably distinct species. Please elect one species from *each* subgroup below. Claim 40 is generic.

IVA. Species of solid surface

Applicant is required to elect, for purposes of search, *a specific solid surface*.

IVB. Species of “silane containing moiety” (e.g. claim 42)

Applicant is required to elect, for purposes of search, *a specific “silane containing moiety”*. Note that the elected moiety should have all atoms and bonds shown, i.e. be completely defined.



IVC. Species of dendrimer polyamine compound used

Applicant is required to elect, for purposes of search, ***a specific dendrimer polyamine compound*** used in the claimed method (i.e. in instant step (c)). Note that the elected compound should have all atoms and bonds shown, i.e. be completely defined.

IVD. Species of "reagent containing a terminally unsaturated carbon"

Applicant is required to elect, for purposes of search, ***a specific reagent*** from those set forth in claim 43.

IVE. Species of "reagent which activates said amine groups"

Applicant is required to elect, for purposes of search, ***a specific reagent*** from those set forth in claim 44.

The species are distinct, each from the other, because their structures and modes of action are different. They would also differ in their reactivity and the starting materials from which they are made. Therefore, the species have different issues regarding patentability and represent patentably distinct subject matter.

14. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.
15. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and ***a listing of all claims readable thereon***, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

16. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).
17. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.
18. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143). Because the above restriction/election requirement is complex, a telephone call to applicants to request an oral election was not made. See MPEP § 812.01.
19. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

20. Applicant is also reminded that a 1 - month (not less than 30 days) shortened statutory period will be set for response when a written requirement is made without an action on the merits. This period may be extended under the provisions of 37 CFR 1.136(a). Such action will not be an "action on the merits" for purposes of the second action final program, see MPEP 809.02(a).

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurie Garcia Baker, Ph.D. whose telephone number is (703) 308-0065. The examiner can normally be reached on Monday-Thursday from 9:00 to 6:30 and alternate Fridays.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang, can be reached on (703) 306- 3217. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Maurie Garcia Baker, Ph.D.  
September 20, 2002



**MAURIE BAKER**  
**PATENT EXAMINER**